

Patient Name: _____
Diagnosis: _____
Notes: _____

Lumbar Disc Replacement Physical Therapy Prescription

The intent of this protocol is to provide guidelines for rehab. It's not intended as a substitute for clinical decision making.

If any of the following occur, contact Dr. Poulter and hold off on physical therapy:

- Any signs of infection
- Worsening of radicular symptoms, including progressive weakness
- Unexpectedly high self-reports of pain in comparison to pre-surgical state

Progress patients with multi-level fusions slower and more cautiously.

Phase I (0 to 12 Weeks): Protective Phase

Therapy

- First visit at two weeks post-op (outpatient)

Precautions

- Avoid bending, twisting, lifting, pushing and pulling **15 pounds or more for two weeks.**
- Limit sitting, including in the car, to no more than 30 minutes at a time (standing/walk breaks).
- No extension range of motion, nor rotation exercises, for eight weeks.

Goals

- Diminish pain/inflammation, minimize lower extremity radiating symptoms (ice, modalities as needed)
- Learn correct body mechanics, transfers, positioning
- Achieve proper muscle firing for transverse abdominis, multifidi and glutes
- Focus on walking program, increasing tolerance to 10 minutes or more, two times a day

Education

- **Postural Education:** Upright sitting posture with lumbar roll at all times, frequent changes in positions and sleeping positions
- **Body Mechanics:** Light lifting, transfers (include log rolling), positioning, etc.

Exercises

- **Walking Program:** Begin one to two times a day for 10 minutes or less. Continue to progress as tolerated.
- **Transverse Abdominis Bracing:** 10" isometrics with normal breathing (without pelvic tilt)
- **Multifidi:** 10" isometrics with normal breathing in prone (if able to tolerate)
- **Glute Set:** 10" isometrics with emphasis on proper glute firing
- **Light Stretching:** Hip flexors, quads, hamstring, gastrocs

Phase II (2 to 6 Weeks): Initial Strengthening Phase

Therapy

- One to two times per week for four or more weeks

Precautions

- Keep spine in neutral for strengthening with a focus on proper neuromuscular control. Do not progress without good control.
- **Lifting Restrictions:** Begin at 20 pounds and slowly increase to no restrictions at week six
- No extension range of motion. No rotation exercises for eight weeks.

Goals

- Complete light strength training with a neutral spine and correct firing of stabilization muscles
- Able to tolerate at least 30 minutes of cardio a day
- Release soft tissue restrictions/muscle spasm (monitor incision region)
- Independent with body and lifting mechanics

Strength

*Only initiate these once patient can complete Phase I exercises. Then begin with light resistance and slowly progress. Emphasize good posture during each exercise and correct muscle firing of transverse abdominis. (This is **not** a complete list.)*

- **Transverse Abdominis/Multifidi Progression** (*maintain neutral spine*)
 - Start at table (supine, prone, quadruped) 10" isometrics
 - Progress with lower extremity/upper extremity movements (eg.: marches, straight leg raises, upper extremity lift and lowers, planks, etc.)
 - Progress to weight bearing, balance, Swiss Ball, reformer, etc.
 - Progress to multi-planar exercises with upper extremity/lower extremity's while maintaining a neutral spine only (**no twisting**).
- **Continue with Proper Glute Activation Exercises**
 - Eg.: prone hip extensions, bridges, side lying clams, side lying 90/90 leg lifts, side lying abduction, quadruped hip extension, bird-dog
- **Lower Extremity and Upper Extremity Strength Training** (*once proper transverse abdominis and glut firing achieved*)
 - Step ups, leg press, wall squats, squats, etc.
 - **Balance** (*with transverse abdominis bracing*): Single leg stance, tandem, foam, etc.
 - Upper extremity light resistive exercises (machines, Theraband, free weights)

Flexibility

- **Stretching:** Hamstrings, gastroc/soleus, quadriceps, hip flexors, piriformis, etc.
- **Neural Mobilization:** Performed as needed, gentle with caution not to flare up nerve roots

Aquatic Physical Therapy (*less than four weeks if available once incision has healed*)

- No rotation and transverse abdominis bracing during all exercises
- Walking all directions, balance, lower extremity and upper extremity strengthening

Phase III (6 to 8 Weeks): Progression to Advanced Strengthening

Therapy

- One to two times per week (as needed for return to sport or work)

Precautions

- No extension range of motion. No rotation exercises for eight weeks.

Goals

- Independent home exercise program for advanced strengthening, return to sport and work
- Increase lower quarter flexibility and strength with focus on proper transverse abdominis and glute activation
- Typically released to full activities without restrictions at six to eight weeks (when approved by Dr. Poulter)

Strength

- Advanced core strength and stabilization exercises:
 - Progress to weight bearing, balance, Swiss Ball, reformer, etc.
 - Progress to multi-planar exercises with lower extremities and upper extremities
- Progress lower extremity/upper extremity strengthening
- Begin running, agility and plyometrics for return to sport at 8 to 12 weeks (if symptoms stable and cleared by Dr. Poulter)
- Possible referral to work reconditioning program

Flexibility

- Lumbar spine more than eight weeks: work on improving lumbar extension range of motion, but avoid end-range
 - Eg.: prone lying, prone on elbows, press-ups and/or gentle standing extensions (if no peripheralization)

Cardio

- Time frames may vary per patient, consult with Dr. Poulter if you have questions (eg.: an avid cyclist with proper bike fit might start sooner).
- Emphasize correct form and equipment setup (eg.: elliptical, bike, walking terrain, etc.).
- Preference of Pilates over yoga. If returning to yoga, ensure it with an experienced instructor.
- When initiating running and sports below, slowly increase in the 8 to 12 week time frame.

	No Earlier Than:
Walking	Continue to progress
Stationary Bike	Add resistance
Swimming	Six weeks
Pilates	Six weeks
Hiking	Six weeks
Elliptical	Six weeks

	No Earlier Than:
Outdoor Biking	Six weeks
Skiing	Eight weeks
Yoga	Eight weeks
Running	8 to 12 weeks
Soccer/Basketball	8 to 12 weeks
Golf	8 to 12 weeks